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(54) **WARPING FOR LASER BEAM SCANNING DISPLAYS USING EYE TRACKING**

(71) Applicant: **Magic Leap, Inc.**, Plantation, FL (US)

(72) Inventor: **Andrew Ian Russell**, Weston, FL (US)

(73) Assignee: **Magic Leap, Inc.**, Plantation, FL (US)

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(57) **ABSTRACT**

Embodiments transform an image frame based on a position of pupils of a viewer to eliminate visual artefacts formed on an image frame displayed on a scanning-type display device. An MR system obtains a first image frame corresponding to a first view perspective associated with a first pupil position. The system receives data from an eye tracking device, determines a second pupil position, and generates a second image frame corresponding to a second view perspective associated with the second pupil position. A first set of pixels of the second image frame are shifted by a first shift value, and a second set of pixels of the second image frame are shifted by a second shift value, where the shift values are calculated based on at least the second pupil position. The system transmits the second image frame to a near-eye display device to be displayed thereon.